

In re application of CABRERA ET AL.
Serial No. 09/361,641

Listing of the Claims:

1-48 (canceled)

49. (previously presented): A method for backing up and restoring a computer system, comprising:

invoking an application programming interface for collecting information of an execution state of a program;

invoking an application programming interface for storing on a medium the collected information of the execution state of the program;

receiving information of the system state of a hardware device;

persistently storing on the medium the information of the system state of the hardware device;

retrieving the information of the system state of the hardware device stored on the medium;

restoring the state of the hardware device using the retrieved information of the system state of the hardware device stored on the medium;

retrieving the information of the execution state of the program stored on the medium; and

restoring the execution state of the program using the retrieved information of the execution state of the program stored on the medium.

50. (previously presented): The method of claim 49 further comprising querying the system state of the hardware device.

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51. (previously presented): The method of claim 50 wherein querying the system state of the hardware device comprises querying the system state of the hard drive.

52. (previously presented): The method of claim 49 further comprising executing a backup program for recording recovery information, including the core operating system and registry information.

53. (previously presented): The method of claim 52 further comprising creating a restoration environment using the recovery information recorded on the medium, including the core operating system files and registry information.

54. (previously presented): The method of claim 53 wherein creating a restoration environment further comprises installing a device driver.

55. (previously presented): The method of claim 53 further comprising rebooting the computer system.

56. (previously presented): The method of claim 49 further comprising invoking an application programming interface for collecting registry information.

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57. (previously presented): The method of claim 49 further comprising querying the system state of a catalog of unmodifiable files.

58. (previously presented): The method of claim 49 further comprising executing a restore process for restoring the state of the hardware device.

59. (previously presented): The method of claim 49 further comprising executing at least one restore program for restoring the execution state of the program using the retrieved information of the execution state of the program stored on the medium.

60. (previously presented): The method of claim 49 further comprising persistently storing on the medium information specifying the programs to copy and execute upon restoration.

61. (previously presented): The method of claim 49 further comprising persistently storing on the medium information specifying special driver files to load upon restoration.

62. (previously presented): The method of claim 49 wherein restoring the state of the hardware device further comprises scanning for current hard disk information of the computer system and comparing the current hard disk information to saved hard disk configuration information.

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63. (previously presented): The method of claim 49 wherein invoking an application programming interface for collecting information of an execution state of a program comprises invoking an application programming interface for collecting information of an execution state of an operating system program.

64. (previously presented): The method of claim 49 wherein invoking an application programming interface for collecting information of an execution state of a program comprises invoking an application programming interface for collecting information of an execution state of an application program.

65. (previously presented): A computer-readable medium having computer-executable instructions for performing the method of claim 49.

66. (previously presented): A computer-readable medium having stored thereon a data structure, comprising:

- a set of data representing state information of a hardware device;
- a set of data representing information of the execution state of a program;
- a set of data representing registry information; and
- a set of data representing catalog information.

67. (previously presented): The data structure of claim 66 further comprising a set of data representing instructions for restoring programs.

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68. (previously presented): The data structure of claim 66 further comprising a set of data representing core operating system files.

69. (previously presented): The data structure of claim 66 further comprising a set of data representing at least one instruction for restoring configuration information of a backup storage device.

70. (previously presented): The data structure of claim 66 wherein the set of data representing state information of a hardware device comprises state information of a hard disk.

71. (previously presented): The data structure of claim 69 wherein the state information of the hard disk comprises partition and volume information.

72. (previously presented): The data structure of claim 66 wherein the set of data representing information of the execution state of a program comprises information of the execution state of an operating system program.

73. (previously presented): The data structure of claim 66 wherein the set of data representing information of the execution state of a program comprises information of the execution state of an application program.

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74. (previously presented): The data structure of claim 66 wherein the set of data representing registry information comprises data corresponding to hardware installed in the system.

75. (previously presented): The data structure of claim 66 wherein the set of data representing catalog information comprises a list of unmodifiable files.

76. (previously presented): A method for recovering from a failure of a computer system, comprising:

recording on a medium recovery information, including the execution state of at least one program, information of the system state of at least one hardware device, core operating system files, registry information, and a catalog listing of unmodifiable files;

restoring the system state of at least one hardware device using the recorded information of the system state of the hardware device;

creating a restoration environment using the recovery information recorded on the medium, including the core operating system files and registry information; and

restoring the execution state of at least one program using the recorded recovery information of the execution state of the program.

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77. (previously presented): The method of claim 76 further comprising recording on the medium at least one instruction for restoring configuration information of a backup storage device.

78. (previously presented): The method of claim 76 further comprising recording on the medium instructions for restoring programs.

79. (previously presented): The method of claim 76 further comprising recording on the medium information specifying special driver files to load upon restoration.

80. (previously presented): The method of claim 76 wherein recording on a medium recovery information, including the execution state of at least one program, comprises executing a backup program for invoking an application programming interface for collecting the execution state of the program.

81. (previously presented): The method of claim 76 further comprising executing a restore process for restoring the system state of at least one hardware device.

82. (previously presented): The method of claim 76 wherein restoring the system state of at least one hardware device comprises scanning a hard disk drive for the current system state of the hard disk drive and comparing the

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current state of the hard disk to the system state of the hard disk drive recorded on the medium.

83. (previously presented): The method of claim 76 further comprising rebooting the computer system after restoring the system state of at least one hardware device.

84. (previously presented): The method of claim 76 wherein creating a restoration environment further comprises installing a device driver.

85. (previously presented): The method of claim 76 further comprising executing at least one restore program for restoring the operating system files from a backup device.

86. (previously presented): The method of claim 76 further comprising executing at least one restore program for restoring the application program files from a backup device.

87. (previously presented): The method of claim 76 further comprising executing special error handling instructions saved on a backup device.

88. (previously presented): The method of claim 76 further comprising executing at least one restore program for restoring the execution state of the

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program using the retrieved information of the execution state of the program
stored on the medium.

89. (previously presented): A computer-readable medium having computer-
executable instructions for performing the method of claim 76.